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INVITED COMMENTARY

No Complaints on the Validity of Karbase

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Once again, we are presented with an example of a registry with excellent external and internal validity.[1] Excellent external validity tells us that in the end, surgeons are motivated to enter cases and procedures into a registry, and good internal validity tells us that they even fill in the information correctly. In the current validation carried out in Denmark, the seven hospitals that were included in the detailed validation covered 51% of the carotid and 78% of the aortic procedures performed in the entire country. Remarkable external (99%) and internal (96%) validity was found. Indeed, the data quality in the Karbase registry was clearly superior to local administrative data — the same phenomenon was observed in the validation of SwedVasc. A commonly heard opinion on registry based studies is somewhat dismissive: "Well, it is based on a registry, and registry data are more or less incorrect." I think we can agree that this is not the case with the Danish vascular registry. Furthermore, in the two earlier validations of the SwedVasc and the Hungarian vascular registries, the vascular registry validity results have been very good.[2,3] All these validations have been made on carotid endarterectomies and repair of abdominal aortic aneurysms, which should be kept in mind.

The validity of a vascular registry depends on one thing: the motivation of the vascular surgeon to contribute to the registry. Where does that motivation come from? One of the most important issues is the feedback from the registry. At its best, a vascular registry gives online feedback to the individual surgeon on his or her performance in relation to the average and the commonly agreed standards, and the external validity of the registry is evaluated regularly. In the worst scenario, the individual surgeon does not receive any feedback from the registry, nor is the external validity under continuous scrutiny. It is easy to imagine which of these scenarios leads to a more valid registry. In order to achieve a balanced environment for a well functioning vascular registry, it is as important to develop the reporting tools as it is to develop the registry itself. This, in turn, requires interest by the hospital to invest in the registry, in addition to an enthusiastic person in the hospital advocating the registry among vascular surgeons.

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Building a vascular registry is challenging. Which variables should be included and how many alternative answers offered? In this phase, it is tempting to include everything and every possible detailed answer in the toolbox. A good example would be the information regarding smoking. At their simplest, the choices are yes and no. However, at this stage, many may think that the registry naturally has to include information about past smoking. But how far back in the patient's history does "past smoking" apply to? And what about the number of packs of cigarettes the patient smokes? Continuing along these lines, you may end up with six different choices regarding smoking. It is easy to understand how this may influence the validity of the smoking data in the registry. It has been neatly shown that the more choices you have, the poorer the validity.

The International Consortium for Vascular Registries used the Delphi approach to achieve a consensus on the minimum core dataset of registries devoted to peripheral arterial revascularisation.[4] From what was originally 187 items in eight categories (patient characteristics, comorbidities, current medications, procedure, complications), 79 were eventually included. This paper gives valuable information for the registries to achieve the optimal data set and also to harmonise the registry infrastructure and the definitions of items in existing registries. Furthermore, Vascunet is preparing to publish the registry reporting standards that will help to harmonise the existing registries and give guidance for new registries in the planning of the data collection.

In the end, I think we can all agree that a vascular registry is a tool that every vascular surgeon should have at their disposal. We have seen that an acceptable reliability can be achieved! The validations of Vascunet registries will continue during the coming years, thanks to the European Society of Vascular Surgery which has been willing to finance these important projects.

REFERENCES

1 Althreuther M, Menyhei G. International validation of the Danish vascular registry Karbase — a Vascunet report. *Eur J Vasc Endovasc Surg* 2019 [in this issue].

2 Bergqvist D, Björck M, Lees T, Menyhei G. Validation of the VASCUNET registry - pilot study. *Vasa* 2014;**43**:141—4.

3 Venermo M, Lees T. International Vascunet validation of the swedvasc registry. *Eur J Vasc Endovasc Surg* 2015;**50**:802—8.

4 Behrendt CA, Bertges D, Eldrup N, Beck AW, Mani K, Venermo M, et al. International Consortium of vascular registries consensus recommendations for peripheral revascularisation registry data collection. *Eur J Vasc Endovasc Surg* 2018;**56**:217—37.

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